



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,394	10/17/2005	Kazuaki Tsuji	03039PCT	1632
23165	7590	06/15/2006	EXAMINER	
ROBERT J JACOBSON PA 650 BRIMHALL STREET SOUTH ST PAUL, MN 551161511			LEE, GILBERT Y	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/549,394

Applicant(s)

TSUJI ET AL.

Examiner

Gilbert Y. Lee

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ✓ 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ✓ 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 10/13/05
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- ✓ 6) ☒ Other: Examiner's Attachment A&B.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Objections***

2. Claim 4 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 3, and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "projects outside" in claim 1 lines 11 and 14 is a relative term which renders the claim indefinite. The term "projects outside" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purposes of this examination, the examiner is interpreting the first and second projecting edges to be projecting away from a centerline of the seal material.

Claim 3 recites the limitation "said second projecting edge is formed by connecting a pair of straight edges together in a convexly crooked shape". It is unclear as to how a pair of straight edges constitutes a convex. The Webster's II New Riverside Dictionary defines convex as: curved or rounded outward like the surface of a ball. It is suggested that the term convex be changed to substantially triangular or pyramidal. For the purposes of this examination, the examiner is interpreting the claim as to claim a pair of straight edges making a substantially triangular shape.

Claim 5 recites the limitation "is fitted to said ant groove...said ant groove of the ring shape". It is unclear to the examiner as to what the applicant is claiming. For the purposes of this examination, the examiner is interpreting the claim as to mean that the shape of the seal material corresponds to the shape of the ant groove.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3673

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Engstrom (US Patent No. 3,909,017).

Note for references A-E see Examiner's Attachment A.

Regarding claim 1, the Engstrom reference discloses a sealing material (Col. 2, Line 8) for an ant groove (5), which is fitted to the ant groove made in a surface of either one of members in a joint place (11, 12) between these members and contacts with a surface of the other member (Fig. 3), thereby sealing both the members, with the sealing material comprising:

an elastically deformable material (Col. 2, Line 8); and

a sectional shape (Fig. 2) having a straight bottom edge (A) which is disposed on a bottom face of said ant groove (Fig. 2); an arched convex edge (B) which contacts

Art Unit: 3673

with the surface of said other member facing said ant groove (Fig. 3); a first projecting edge (C) which connects with one end of said bottom edge and projects outside (Fig. 2); a concave inlet portion (9) which is located between said first projecting edge and said arched convex edge (Fig. 2); a second projecting edge (D) which connects with the other end of said straight bottom edge and is composed of straight lines that project outside (Fig. 2); a straight sloping edge (E) of which one end connects with the opposite end of said arched convex edge as to said first projecting edge and of which the other end connects with said second projecting edge (Fig. 2); and at least one corner portion (F) which is constituted in the range of from said straight bottom edge via said second projecting edge to said sloping edge (Fig. 2). Note that the English equivalents to the patents described in the specification recite that the groove is an annular groove and has been treated as such for the examination of this application. Also note that the straight slope is connected to the arched convex edge through a concave portion (Fig. 2).

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Kane et al. (US Patent No. 6,932,354).

Note for references G-O see Examiner's Attachment B.

Regarding claim 1, the Kane et al. reference discloses a sealing material (Col. 1, Lines 35-36) for an ant groove (Col. 2, Lines 18-22), which is fitted to the ant groove made in a surface of either one of members in a joint place (e.g. 14 and 16 comprising one member and the second member being discloses in Col. 3, Lines 1-4) between

these members and contacts with a surface of the other member (Col. 3, Lines 1-4), thereby sealing both the members, with the sealing material comprising:

an elastically deformable material (Col. 1, Lines 35-36); and

a sectional shape (Fig. 3) having a straight bottom edge (G) which is disposed on a bottom face of said ant groove (Fig. 3); an arched convex edge (12) which contacts with the surface of said other member facing said ant groove (Fig. 3); a first projecting edge (H) which connects with one end of said bottom edge and projects outside (Fig. 3); a concave inlet portion (I) which is located between said first projecting edge and said arched convex edge (Fig. 3); a second projecting edge (e.g. J and M) which connects with the other end of said straight bottom edge and is composed of straight lines that project outside (Fig. 3); a straight sloping edge (K) of which one end connects with the opposite end of said arched convex edge as to said first projecting edge and of which the other end connects with said second projecting edge (Fig. 3); and at least one corner portion (e.g. L) which is constituted in the range of from said straight bottom edge via said second projecting edge to said sloping edge (Fig. 3). Note that the English equivalents to the patents described in the specification recite that the groove is an annular groove and has been treated as such for the examination of this application. Also note that the straight slope is connected to the arched convex edge through a concave portion and horizontal edge (Fig. 3).

Regarding claim 3, the Kane et al. reference discloses said second projecting edge being formed by connecting a pair of straight edges (J and M) together in a triangular shape; and

said corner portion being constituted in the following three places: a place between said straight bottom edge and said second projecting edge (L); a crooked place of said second projecting edge (N); and a place between said second projecting edge and said sloping edge (O).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engstrom.

Regarding claim 2, the Engstrom reference discloses the invention substantially as claimed in claim 1.

However the Engstrom reference fails to explicitly disclose the maximum value of distances of from said corner portion to said concave inlet portion having a relationship of 1.0 to 1.1 with an opening width of said ant groove.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the maximum value of distances of from said corner portion to said concave inlet portion having a relationship of 1.0 to 1.1 with an opening width of said ant groove, since it has been held that where the general conditions of a claim are



Art Unit: 3673

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 5, the Engstrom reference discloses the invention substantially as claimed in claim 1 as well as the ring shape corresponding to the groove shape;

having a location such that said first projecting edge and said concave inlet portion are located at the outer peripheral side of said ring shape (Fig. 2); and

having a location such that said second projecting edge, said straight slop edge and said corner portion are located at the inner peripheral side of said ring shape Fig. 2); including the peripheral length of the seal extending beyond the top of the groove (Fig. 2).

However, the Engstrom reference fails to explicitly disclose the peripheral length extending by 1-10% in a state fitted to said ant groove of the ring shape when compared with a free state.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a peripheral length extending by 1-10% in a state fitted to said ant groove of the ring shape when compared with a free state, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

7. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane et al.

Regarding claim 2, the Kane et al. reference discloses the invention substantially as claimed in claim 1.

However the Kane et al. reference fails to explicitly disclose the maximum value of distances of from said corner portion to said concave inlet portion having a relationship of 1.0 to 1.1 with an opening width of said ant groove.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the maximum value of distances of from said corner portion to said concave inlet portion having a relationship of 1.0 to 1.1 with an opening width of said ant groove, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 5, the Kane et al. reference discloses the invention substantially as claimed in claim 1 as well as the ring shape corresponding to the groove shape;

having a location such that said first projecting edge and said concave inlet portion are located at the outer peripheral side of said ring shape (Fig. 3); and

having a location such that said second projecting edge, said straight slop edge and said corner portion are located at the inner peripheral side of said ring shape Fig. 2); including the peripheral length of the seal extending beyond the top of the groove (Fig. 2).

However, the Kane et al. reference fails to explicitly disclose the peripheral length extending by 1-10% in a state fitted to said ant groove of the ring shape when compared with a free state.

Art Unit: 3673

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a peripheral length extending by 1-10% in a state fitted to said ant groove of the ring shape when compared with a free state, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

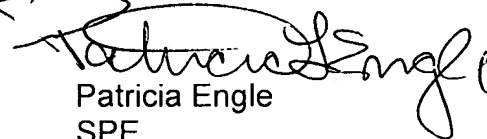
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

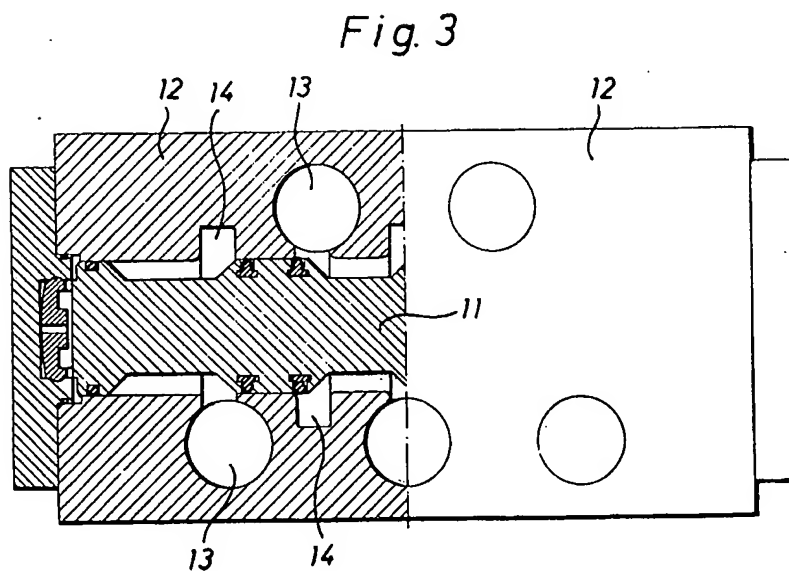
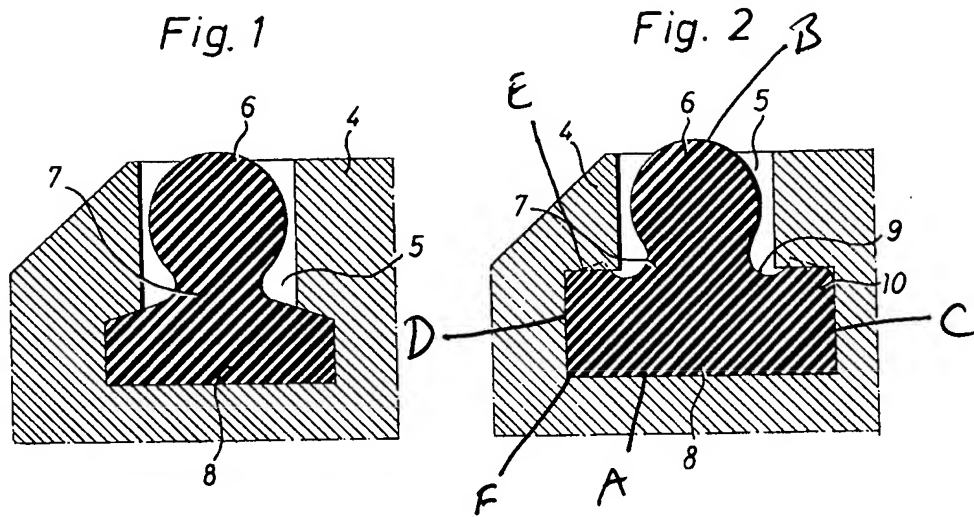
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3673

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Patricia Engle  
SPE  
Art Unit 3673

GL  
6/8/06



EXAMINER'S ATTACHMENT B

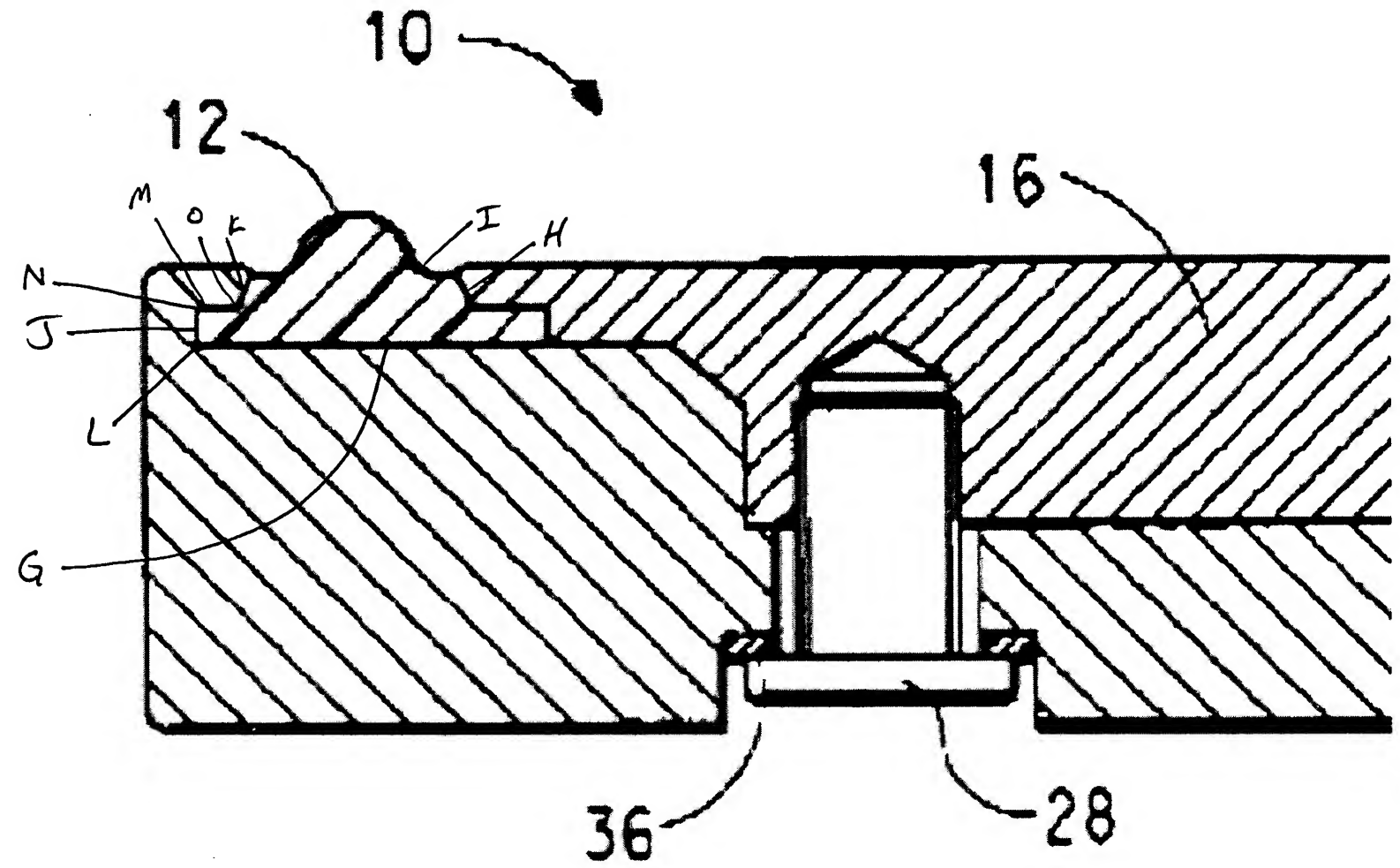


FIG. 3